

The assessment of the relationship of facial and dental midlines with various anatomic landmarks of face and oral cavity.

ABSTRACT

Background & objectives: Recognition and determination of facial and dental midline is important in dentistry. Currently, there are no verifiable guidelines that direct the Choice of specific anatomic landmarks to determine the midline of the face or mouth. The purpose of this study was to determine the hierarchy of facial anatomic landmarks closest to the midline of the face as well as midline of the mouth and determine which intra oral anatomic landmarks is closer to dental midline.

Material and methods: Three commonly used anatomic landmarks, nasion, tip of the nose, and tip of the philtrum, Were marked clinically on 108 subjects.³ Frontal full-face digital images of the subjects in smile were made under standardized conditions. Then the best image was used for midline analysis in accordance with the Esthetic Frame. Deviations from the midlines of the face and mouth were measured for the 3 clinical landmarks; the existing dental midline was considered as the fourth landmark. The entire process of midline analysis was done by a single observer and repeated twice. In order to evaluate the relationship between intra oral anatomic landmarks and dental midline, alginate impression was taken and casts were analyzed under standardized condition. The labial Frenum and incisive papilla were marked. Images were taken under standard conditions and then analyzed. Kurtosis was used to analyze data distribution and t test was used to compare the means with the standard values.

Results: The data showed difference between the mean ratios of the chosen anatomic landmarks and the midlines of the face and mouth ($p \leq 0.05$). The anatomic landmarks hierarchy, in close proximity to the midline of the face are midline of the commissures, nasion, tip of philtrum, tip of the nose, and dental midline, respectively. Also, the anatomic landmarks hierarchy, in close proximity to the commissural midline include dental midline, tip of philtrum, tip of nose, and nasion. Labial Frenum was less deviated from dental midline than incisive papilla.

Conclusion: Each of the 4 anatomical landmarks was deviated from the midline of the face and mouth.

Keywords: Facial midline, Dental midline, commissural midline, RFV, RCV